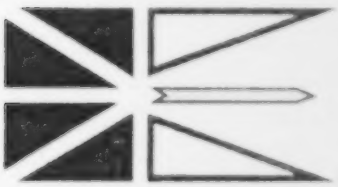
An Electricity Policy for the 21st Century

Options & Opportunities



Stakeholder Consultation Document

Department of Mines and Energy, Energy Branch
Government of Newfoundland and Labrador

March 2002

Copies of this report may be obtained from

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This document is a summary of a larger report which is also available from the Department of Mines and Energy, Energy Branch, or at www.gov.nf.ca/mines&en/energy/policyreview.

Please see www.gov.nf.ca/mines&en/energy/policyreview for more information about the consultation process and submissions, or contact Darrell Mercer at the Department of Mines and Energy (709)729-5777.

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Government of Newfoundland and Labrador
Department of Mines and Energy

The Government of Newfoundland and Labrador is committed to securing the greatest benefit for the people of the Province from the development and use of its resources. This has to be achieved in a manner consistent with principles of sustainability and our environmental, social and economic goals, as well as in light of practical constraints.

To provide advice about future directions for the Province's electricity policy, Government established an Electricity Policy Review process, conducted by the Energy Branch of the Department of Mines and Energy. The first step was a comprehensive review of the electricity industry in the Province, which has been completed by staff of the Department of Mines and Energy with assistance from external consultants.

The next step is a public review to obtain views about the issues and options for the future. To this end, Government will conduct consultation meetings with interested organizations, businesses and individuals. Written submissions from interested parties are also welcome and encouraged. These submissions should be received by May 31st, 2002.

This current document is intended to assist the consultation process by providing background information, a discussion of the major issues identified to date and a variety of options for the future. Based on its research and the input received during the consultations, the Department will prepare its recommendations for Government.

I thank you for your interest in this important phase of the Province's Electricity Policy Review.

Hon. Lloyd Matthews
Minister
March 2002

Options and Opportunities

Government's electricity policy review has raised many questions about the structure of the industry, the regulatory environment and our options for the future. How we address these questions and the choices we make will affect citizens and businesses in all parts of the Province. This consultation process is an opportunity to let Government know *your* views. The following are some of the key questions.

Industry structure:

- Should Newfoundland and Labrador Hydro (NLH) buy Newfoundland Power (NP)?
- Should NLH be split up (but not sold) and new private sector competitors encouraged?
- Should we establish a "Power Pool" type system with an independent operator?
- Should NLH get out of the distribution business and pass its assets over to NP?

Industry regulation:

- Should we create a competitive environment and allow the marketplace to regulate pricing?
- Should prices be set separately for generation and transmission (i.e. "unbundled")?
- Should Government retain the Public Utilities Board authority over NLH's decisions, or take it back?

Future generation sources:

- How do we balance the different environmental impacts of different types of generating plants?
- Can some small-scale hydro projects be acceptable?
- Should we allow private companies to develop these?
- What is the role of thermal generation using alternative fuel sources (wood, peat, waste)?
- Should we keep the door shut on nuclear power?
- What role could be played by new technologies, such as fuel cells and solar power, which are not yet commercially available?
- Is conservation the best solution to projected future energy needs?
- How do we ensure that NLH is not in a conflict situation when it evaluates other proponents' proposals?

Economic development:

- How can we use our electrical resources for economic development?
- Do rate subsidies for new industries - which all consumers would pay for - help or harm our economy?
- What are the possibilities for interconnection with mainland Canada and the US, to access their

1. CONTEXT

THE INDUSTRY

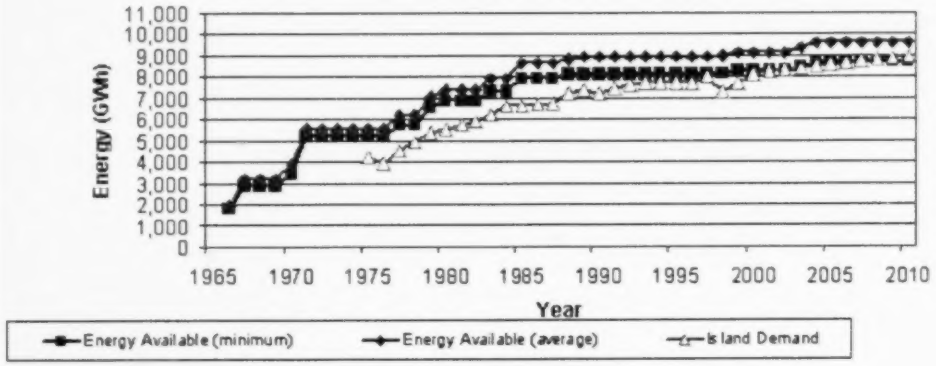
Electricity service is available in all communities in Newfoundland and Labrador and is technically comparable with any other in the world. The two utilities that distribute electricity in the Province, Newfoundland Power (NP) and Newfoundland and Labrador Hydro (NLH), together serve about 280,000 customers. The majority are connected to the Island's system, which has almost 1900 MW of generation. In addition, four major industrial enterprises on the Island are served by NLH directly from the high voltage transmission grid.

In Labrador, most customers are served by NLH with power from Churchill Falls. The two iron ore companies are also supplied from Churchill Falls. Customers in 27 isolated communities in Labrador and six on the Island are provided with power from diesel generators.

Newfoundland Power, an investor-owned subsidiary of Fortis Inc., is the primary retailer of electricity on the island portion of the Province, selling power to approximately 85% of the population. It purchases 90% of its supply from NLH and generates the balance from its own smaller hydro generating facilities. Newfoundland and Labrador Hydro, a Provincial Crown corporation, generates most of the power (primarily hydroelectric) used in the Province and also provides distribution and retail services to customers in Labrador and in areas of the Island not serviced by NP. It also carries out supply-and-demand forecasting and planning for all systems.

The most recent forecast from NLH shows growth over the next 10 years in the order of 1% annually (Figure 1). The current system, augmented by the new Granite Canal plant and

Figure 1: Island Interconnected System Energy Delivery (Actuals to 2000, NLH Forecasts 2001 - 2010)



new generation to be implemented at the paper mills, should be sufficient to supply Island needs until 2007 or 2008. In Labrador, ample power is available from Churchill Falls to meet foreseeable needs, and NLH has been negotiating with Hydro Québec since 1998 on the sale of power from the development of additional hydroelectric generation on the Lower Churchill River.

REGULATION

The electricity industry is regulated by the Board of Commissioners of Public Utilities (commonly known as the Public Utilities Board or PUB). Legislation defines how PUB determines electricity rates. Actual rates depend on what class a customer is in (domestic or residential service; small, medium or large general service; or industrial service) and on the "system" to which they are connected (Island Interconnected, Labrador Interconnected or Remote Diesel). There are currently different sets of rates for the Happy Valley-Goose Bay area, Labrador City and Wabush, although under NLH's current rate application there would be only one set, similar in structure to Island rates.

Until 1996, NLH was accountable only to Government for its capital budget and major decisions, such as the selection of new power sources, while PUB's role was to examine operational costs and recommend rates. This arrangement allowed Government to direct major decisions of NLH in the overall public interest. However, legislative amendments made in 1996, gave PUB complete regulatory authority over NLH; PUB approves NLH's capital budget, selection of power projects and rate-setting. Although Government still owns NLH, it has no direct control of its rates.

ISSUES

During the initial stage of the policy review, several significant issues were identified which have implications for the electricity industry and our future options.

Accountability Conflict The 1996 amendments to the *Hydro Act* established an arms-length relationship between Government and NLH and provided ultimate authority to the PUB. Therefore NLH is now accountable both to Government, as owner, and to the PUB. As an independent regulator, PUB is bound by legislation to focus on customer cost and system reliability and to set fair rates that allow utilities enough profit to maintain their financial integrity.

Potential Conflict of Interest At present, only NLH has the technical resources to evaluate all the aspects of projects of any significant size. Therefore, NLH has been responsible for evaluating both its own and private-sector project proposals. This has raised the possibility that NLH could be considered to be in a conflict-of-interest situation.

Cost and Efficiency Issues Both NP and NLH provide service to residential and commercial customers in different areas on the Island of Newfoundland (see Figure 2), which results in some duplication of services and higher costs. Previous reports have recommended that having only one utility responsible for all transmission and distribution assets on the Island would increase efficiency.

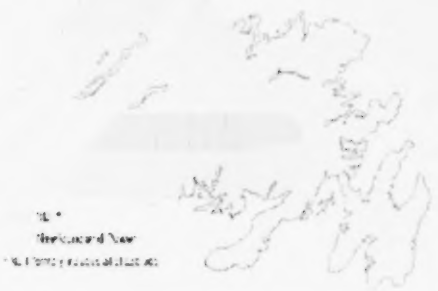


Figure 2: Service Territories on the Island of Newfoundland

Regulatory Process Reform and Electricity Pricing While the current regulatory regime does control prices and utility profits, it has several inherent weaknesses. For example instance, there is no incentive for a utility company to become more efficient or to encourage conservation. The rate-setting process also includes judicial-style hearings which are time-consuming, expensive and leave most consumers at a disadvantage in making their arguments. Additionally, if the regulator allows NLH to change its rates, a separate hearing is required for NP.

Future Generation Sources In many other jurisdictions, small hydro is considered environmentally acceptable and beneficial overall. In this Province, proposals for small-scale hydro have met with opposition from a number of special-interest groups. However, relying on burning oil (and natural gas when it becomes available) results in emission of the gasses which cause climate change.

2. OPTIONS AND OPPORTUNITIES

The issues may be addressed by considering options and making choices related to the structure of the industry in the Province, the regulatory and pricing regimes, and our future generating potential.

Structural Reform

There are many different models in North America and other parts of the world for structuring an electricity industry. For this review, four models were developed as options for this province. Whatever model is chosen will have very significant implications for all other aspects considered in this review.

The Current Model The current structure clearly works to deliver electricity, reliably and at reasonable cost to all residents of the province. However, three of the significant issues identified above are specific to the current structure: accountability conflict, potential conflict of interest in the selection process for new projects, and duplication of distribution and retail services. Although the accountability conflict could be resolved by amending the *Hydro Act* to change PUB's role and duplication could be avoided by transferring assets to NP, addressing the potential conflict-of-interest during the project selection process would be difficult without structural reform.

Advantages:

- No money or effort expended on structural changes.
- Some major issues can be resolved through

legislative and regulatory reform.

- NLH retains responsibility for overall system planning, to ensure power reliability and quality.
- Cost/operating efficiencies can be achieved if distribution and retail functions on the Island are carried out by one entity.

Disadvantages:

- Ongoing difficulty in achieving a demonstrably fair selection process for new generation.
- Possible opposition to removing PUB's regulatory authority over NLH, given to PUB in 1996 may not be acceptable to some.

Single Integrated Utility In this model, one entity performs all utility functions. There is no need for duplication or external transactions for power. However, a total monopoly may not achieve optimal efficiency, since there is no competition. Management may try to maximize capital investment to provide growth, and external regulators must rely on the utility to provide data and information. Since Government has specifically stated that NLH will not be privatized, to create such a utility NLH would have to acquire Newfoundland Power, which would likely mean having to purchase the shares of Fortis, then to dispose of its other assets. Fortis Inc.'s 2000 Annual Report indicates total asset value of approximately $1.48 billion, with long-term debt of $728 million. Since then Fortis has grown in value.

Advantages:

- Would remove duplication of distribution services and corporate administration.
- Would improve ability to plan integrated system development.
- Would achieve savings in federal corporate income tax (NP paid $13.3 million in 2000), since Provincial Crown corporations are exempt (though this might be offset by equalization losses).

Disadvantages:

- Significant short-term expense and effort for NLH to acquire NP from Fortis Inc.
- Accountability conflict could be more acute unless full autonomy is given to NLH.

Competitive Generation This is the trend in many jurisdictions. Proponents of competition suggest it is a better method of obtaining power at fair cost than is price regulation. To work effectively, however, competition must be fair: no single company can control the market and no collusion can occur. Evidence suggests that at least four or five independent generation firms are needed, of roughly similar size.

Hagler Bailly (consultants retained by the Province) concluded that a competitive model would be possible if the generation operations of NLH were broken up into business units to compete against other generation owners and against one another. In addition, a market operator and a system operator[1] would be required, along with transfer of control of the transmission network. Both these new organizations and players in the market would need extra staff for the work related to repeated bidding.

Existing generation is more than adequate throughout most of the year; therefore new generators would not operate much of the time, since their prices would likely have to be higher than that of existing plants. To remain viable, they would need to obtain very high prices when they did run, which would lead to significant price spikes.

In this type of market structure, Government would have to adopt an arms-length relationship

1. These could be within one entity, but the requirement for the separate functions would remain.

with NLH. Since competition would not work with collusion of any kind between competing generators, NLH's generation business units would have to be free to operate independently. While this would remove the accountability conflict, it would limit Government's ability to direct NLH in the public interest.

Advantages:

- Free market pricing should represent the true cost of supplying power.
- The regulatory burden would be reduced because regulating the cost of generation would be unnecessary, though regulation of the transmission tariff would continue.

Disadvantages:

- The number of providers would likely be limited, limiting competition and allowing one or two to dominate the market.
- Prices are unlikely to decrease and the wholesale cost of power could fluctuate considerably on a daily and seasonal basis.

The Composite *(Modified Current)* Model

Review of the models suggested by Hagler Bailly, previous studies and other provincial structures led to the formulation of a composite model aimed at retaining the advantages of the current system while addressing its structural disadvantages. In this model, system operation would be separated from the ownership of generation and transmission to produce a system similar to a power pool, a proven model in other jurisdictions. Under this system:

- A Crown agency System Operator would be created using some of the physical and human resources of NLH and NP. NLH and NP would give control (but not ownership) of the transmission/distribution network and associated control systems to the System Operator.
- The output from all existing (NLH, NP and industrial surplus generation) and new generation would be purchased under power purchase agreements (PPAs) by the System Operator.
- The System Operator would order the various generators to operate to minimize costs while meeting PPA obligations.
- The PPA for NLH's hydroelectric generation could be similar in style to that implemented by Quebec: a fixed price sufficient to cover anticipated costs, plus a return on investment.
- The System Operator would be responsible for system planning and for administering a competitive process for new generation contracts. NLH would be free to bid, as would be NP and other private sector proponents. Since the System Operator would not own assets, it would be independent of all generation owners.
- NLH and NP would be responsible for debt payments, maintenance and physical operation of all their respective assets.
- A regulated transmission tariff would be collected by the System Operator to pay its operating costs and the transmission owners' transmission-related maintenance and debt costs. This tariff could be regulated by PUB.
- NP (and NLH, if it continues to distribute power) would purchase power from the System Operator.

It would be necessary to set the rates of the PPAs, but these could be for the most part one-time exercises, with occasional resetting as circumstances dictate. Overseeing this process could be assigned to PUB without resulting conflict for NLH. Since it would own few assets, the System Operator could be a non-profit enterprise, with PUB regulating the transmission tariff. This arrangement is common in other jurisdictions. Government, as owner of the System Operator, would oversee planning and system development, using an appropriate

level of ongoing consultation with stakeholders.

Advantages:

- Would resolves the potential conflict of interest in the selection process for new generation.
- Would allow remaining part of NLH to operate as a conventional business on a business-like basis.
- Government could oversee the electricity system's role in economic development through the System Operator.
- A regulated transmission tariff would facilitate use of the transmission system by independent generators; encouraging diversity and private-sector development.
- Setting the contract prices for existing generation in a one-time exercise with a formula to cover fuel cost variations would simplify the regulatory process.
- Rationalization of distribution activities between NP and NLH would be possible.

Disadvantages:

- Implementation would be complex and require legislative change.
- Reorganization of the industry would require significant effort by all parties involved significant effort by NLH and NP.
- Creating a System Operator could create some duplication of corporate support, such as Human Resources and Information Technology, though this could be mitigated by allowing support from NLH for an interim period.

REGULATORY PROCESS & PRICING REFORM

The Regulatory Process In this Province, we use a traditional approach to setting electricity rates called the "rate-base" or "cost-of-service" method. The rate base is essentially the value of the utility's capital assets minus its debt. The regulator conducts a detailed examination of utility's costs, determines should be included in rate calculation, adds a "return on rate base" and calculates the rates needed to supply the revenue required.

Over the last two decades, some jurisdictions have made growing use of alternative approaches to regulation, generically called "performance-based rate-making", or PBR. There are many variations, but in most cases, there is a rate cap which limits increases, often a portion of the consumer price index. This has the effect of gradually reducing the real rate charged and challenging the utility to improve efficiency. The regulator sets limits on the utility's overall profit, allowing a wider range than is customary in the rate-base approach. However, as the utility earns more, it has to share that extra revenue with customers through rate reductions. This provides the utility with the incentive to increase efficiency, and customers share the benefit.

Pricing Under current regulations, electricity prices for each customer group are based on the average cost of supplying power to the whole group, so that all pay the same rate. Under this system, however, additional costs, such as building new generation to supply the needs of new customers, could significantly increase the average rate for all in the group. The alternative would be for the new customer to pay the full cost of the new power, at a significantly higher rate. While the latter approach is better for existing customers, it is very unusual in a regulated environment and would hamper efforts to attract new business.

Another pricing mechanism in some jurisdictions is to charge different rates according to the time the power is used. However, in Newfoundland, where the supply is predominantly hydroelectric with oil-fired generation for winter, neither seasonal nor time-of-day rates would reflect real costs. Any reduction in demand at one time simply saves some of the reservoir water or oil for use later. One aspect of time-of-use pricing which should be considered for our system is the "demand charge" applied to industrial, medium and large commercial customers. This is a charge that these customers pay based on the highest rate at which they use electricity in a given month, in addition to the charge for the total amount of kilowatt-hours they use. Significant savings may be possible for some customers if flexibility exists to adjust demand charges according to customers' specific circumstances, as there could be within a PBR system.

Further advantages may be achieved by splitting customer bills into two parts: a commodity charge for power used and a separate charge for distribution/delivery. This is called "unbundling" and is increasingly commonplace in both the electricity and gas sectors. At present, Newfoundland Power provides "bundled" service. It purchases more than 90% of its power from NLH at rates set by PUB. If NP's services were unbundled, NP would charge for the costs associated with delivery, based on the cost of the poles, wires and other delivery infrastructure. This would better reflect how most of NP's costs are incurred, since the amount of electricity a household uses has no effect on NP's costs, other than the cost of purchasing the power from NLH. In this approach, implementing PBR would be more straightforward, and improved efficiency should result in a reduction in costs. The resulting benefit would be shared between NP's shareholders and customers.

Because it would better reflect the way the costs of electricity are incurred, unbundling would result in decreased costs for high-level consumers (such as home owners with electric heating), while small users of electricity (such as apartment dwellers and cottage owners) could face increased costs. This would occur because the distribution/delivery cost, which represents a higher proportion of total consumer cost, would be fixed, independent of the amount of power used. Such impacts could be reduced by phasing in the changes and by varying the delivery charge with the size of service installed.

Advantages of PBR and Unbundling:

- Reduced regulatory burden, since NP applications will not be required if NLH changes its rates).
- More incentive for NP to promote greater energy efficiency/conservation or implement other demand-side management measures without reducing its own profits.
- Decoupling distribution charges from actual electricity use and consequent ability of distribution companies to control costs.

Disadvantages:

- Care needed to avoid increased cost for small users.

FUTURE GENERATION SOURCES

Newfoundland and Labrador has a variety of options for generating electricity. Deciding on which type, or types, are best, requires us to consider several factors.[2] For instance:

- Will we need additional generation all the time or just to meet peak demand?
- Over what time frame should we calculate lowest cost options, considering that

2. Most of this discussion relates to the Island system since there is adequate available power generation in Labrador from Churchill Falls.

forecasts of power needs tend to be less reliable over the longer term?

- Can the system handle more generation from sources, such as wind farms, that cannot produce predictable, specific, stable outputs ?
- What environmental constraints will impact on future energy production and consumption?
- Should we rule out any particular type of generation or keep all our options open?

Large-Scale Hydroelectric Projects

There are at least 20 sites on the Island with hydroelectric potential greater than 20 MW, with a total combined capacity of more than 1200 MW. Although hydroelectric projects emit only relatively minor pollutants, they often flood large areas and affect both wildlife and people; many would be judged unacceptable for these reasons. Large hydroelectric plants are expensive to build, but very cheap to operate.

Small-Scale Hydroelectric Projects

A 1986 study indicated a potential for small-scale hydro projects with a total output of 710 MW on the Island. There is also hydro potential in southern Labrador, but to date transmission is too costly. When NLH issued a request for proposals for small hydro projects in 1992, twenty-six were received. Of these, two - Star Lake (15 MW) and Rattle Brook (4 MW) - proceeded and are now in service. Because small-scale hydroelectric projects do not flood large areas, they are usually more environmentally acceptable than large-scale projects, though this also means that output cannot be adjusted to meet peak demand. Some environmental groups have expressed strong concern about possible impacts of small hydro projects on fish, especially salmon.

Thermal Generation

Conventional large-scale thermal generation burns oil, gas or coal to make high-pressure steam that turns the generator turbines. There is only one large plant of this type in the Province, in Holyrood. This site can accommodate one additional ***heavy oil*** burning unit similar to the three existing ones. Thermal generation is potentially unlimited, can be sited almost anywhere and is often cheaper to build than hydroelectric plants, but it has higher operating costs, a shorter economic life and produces greenhouse gas and other emissions.

The Holyrood plant can accommodate a new, high-efficiency combined cycle unit which would run on cleaner - but more expensive - ***light fuel oil*** or ***natural gas***. However, natural gas now produced from Newfoundland's offshore is being re-injected to maintain pressure for oil production and may not be available before the end of the decade.

Coal is also an option, but it is expensive to handle and produces heavy emissions. It should be re-evaluated as prices change and technology (for example, "clean coal") develops.

There are also a variety of other fuel options in the Province for new, small-scale thermal generation (collectively known as ***biomass fuels***); programs to encourage their use operated from 1978 to 1995.

Wood burning had some success in Newfoundland and Labrador, principally in larger health-care institutions, but lower oil prices in the late 1980s and 1990s reduced their relative economic benefits significantly. Wood's main advantage is that it is a renewable energy source. However, given the costs involved and the pressure on the Island's wood supply, it is unlikely that this fuel has much future for large-scale generation.

Newfoundland has very large ***peat*** resources, but peat requires drying before it is suitable for fuel. Our climate is less than ideal for atmospheric drying, and artificial drying is too

expensive. Previous studies have indicated that peat could be cost-effective for generation, but the harvest would be uncertain from year to year, since drying would depend on weather. The environmental impact of large-scale peat harvesting also remains to be assessed.

Burning of municipal **waste** for heat and/or generation is widespread in Europe. Evaluation in the early 1980s indicated that it could be economical in the Avalon area, but not until the region requires a new landfill. A technology development project for small-scale turbine generators using waste sawmill wood is also underway, with support from Natural Resources Canada.

There are also opportunities for the use of wood waste for **cogeneration** (simultaneous generation of power and useful heat) at industrial facilities in the forest products sector. In 2000, NLH agreed to purchase power from a 15 MW cogeneration project at Corner Brook Pulp and Paper, burning mill waste and oil. Both Abitibi paper mills may also be able to implement cogeneration using mill waste. There is also cogeneration potential at the Come By Chance oil refinery.

Wind Generation

As the costs of other forms of generation have increased and wind generation has proved successful elsewhere, this environmentally friendly option has become attractive. In 2001, NLH awarded the NeWind Group a contract for a wind generation demonstration project to determine its viability in our environment. Output in Newfoundland may be higher than in many other areas because of our high average wind speeds, though icing on the turbine blades may be a problem. In addition, wind turbines are highly visible and produce noise. Even if proven viable, there will be a limit to the share of total generation that can be supplied from wind (perhaps 10% of the total system) since wind is variable in strength.

Fuel Cells

Fuel cells are a developing technology which shows promise for wide application. Hydrogen and oxygen combine chemically (without burning) in the cells to form water and produce electricity. The hydrogen source can be natural gas, propane or alcohol. Fuel cells are expected to have major application in vehicles, but electricity-related applications are also being developed. Cells have been developed with output up to 0.25 MW, as well as similar units that can be placed in a residence or business. They require no transmission or distribution networks.

Solar Power

Photovoltaic (PV) panels generate eclectic power from sunlight. Technology development has reduced the cost of solar power over the last few decades, but it remains higher than most other sources and many panels are required for even modest amounts of power. Wile PV generation is completely clean and silent, it does not operate at night, it requires storage or alternative means of generation, Output is also reduced in cloudy or foggy conditions, and the panels have to be kept clean of snow and ice.

Interconnection

Construction of a transmission line between Labrador and the Island has been pursued periodically since the mid-1970s. The generation cost in Labrador is lower than any of the alternatives for the Island, but the cost of transmission remains a significant barrier, even through the relevant technology is continually and rapidly developing. Interconnection with Nova Scotia is also technically achievable and would provide access to additional power. It could also provide a route for Island-based generation to send any excess power to North American markets.

Improving Energy Efficiency

Adding any new generation to the system is expensive and would cost more than the average cost at facilities already operating. Consequently, the most cost-effective way of meeting future needs is to make better use of what we have. There are many opportunities to increase the efficiency with which power is used. This would save new generation and transmission costs, cause no pollution or other environmental impacts and reduce consumers' bills. As noted in the section of this report dealing with pricing, the current rate structure contains a disincentive for NP to encourage conservation and efficiency. Unbundling NP's rates into a pass-through charge for power plus a fixed delivery charge would improve the situation.

Generation for Remote Communities

The best option for remote communities is to build transmission lines from the main system, but none of the remote communities in the Province can be interconnected at less cost than continuing to operate local diesel plants. The same is true for most alternative energy sources, where lack of reliability or high capital costs render them unfeasible. However, there is some interest in testing small wind turbine systems on some remote systems, and NLH is currently assisting. In the future, utility-scale fuel cells may also be an option.

Electricity and Economic Development

For more than 100 years, electricity has played a vital role in economic development throughout the industrialized world. Without adequate supply of reliable power at affordable prices, modern industrial development would be virtually impossible. Today, new factors have come into play, and new opportunities may be opening up for the Province. For example, price instability in some markets has led some energy-intensive industries to place increased emphasis on price stability rather than simply on low price, and new technologies may make long-distance undersea transmission more feasible in the near future.

The Traditional Approach

The traditional approach to using electricity as a tool for economic development is to offer low rates to customers bringing a new industry to a region. In other jurisdictions the trend toward offering discounts to large energy users is declining because of recent trade agreements banning subsidies, negative impacts on general consumer costs and the trend to competitive markets. There is still occasional use of specific low-cost opportunities, but in many cases these are used in shorter-term arrangements to facilitate start-up.

There are opportunities for applying this approach in the Province. Churchill Falls recall power costs NLH very little, and approximately 130 MW could be made available to industries in Labrador. This power is currently sold to Hydro Quebec at a much higher cost than existing sources. This would result in higher, not lower, rates.

Power Exports and New Opportunities

Perhaps the best opportunity for the electricity industry to play a major role in the Province's economic development is Lower Churchill hydroelectric power. Government and NLH have been pursuing the Lower Churchill project with Hydro Quebec since 1998, but it has not yet been possible to reach an agreement satisfactory to both parties. Other opportunities do exist for utilizing Labrador sources. For example, Alcoa has completed a feasibility study for one or more aluminum smelters in the Province. Supplying such facilities would be a major step forward for the Province and would significantly bolster the industrial sector's power use.

At present, the Project Neptune consortium is investigating a network of undersea transmission lines linking New Brunswick, Nova Scotia and Maine with US markets. Should the network prove feasible, and if it could be extended to Newfoundland, the Island would have the opportunity both to buy power when needed and to sell summer excess capacity. Once offshore gas becomes available, it would be possible to export gas-fired generation. If an additional connection could be built to Labrador, the Province would have a loop system through which all generators could deliver power to markets. Open-access transmission would be a virtual necessity for generators in the Province to participate in the types of business which would become possible.

Making the Right Choices

The Province's electricity industry must continue to serve the existing domestic, commercial and industrial customer base with reliable power at fair cost. It must also support efforts to attract new commercial or industrial activity by being as competitive as possible with other jurisdictions. Any decision must weigh the advantages and disadvantages of each approach, in light of our needs, the costs involved and all of the potential impacts.